

REMARKS

Claim Rejections - 35 USC §103

Claims 1-8, 13-15, 28 and 29

Claims 1-8, 13-15, 28 and 29 are rejected under 35 USC §103(a) as allegedly being unpatentable over Liehr et al (US 6,487,986, hereinafter “Liehr”) in view of Dick et al (US 5,904,958, hereinafter “Dick”). Applicants respectfully submit that the embodiments of the present invention as recited in Claims 1-8, 13-15, 28 and 29 are not rendered obvious by Liehr in view of Dick for the following reasons.

Applicants respectfully direct the Examiner to independent Claim 1 that recites an apparatus comprising:

an elongated lubricant vapor source comprising a chamber fluidly communicating with at least a plurality of primary plugs having an interior for supplying lubricant vapor, wherein each of the plurality of primary plugs comprises a drilled hole and two openings for transporting the lubricant vapor; and

the lubricant vapor source comprises a plurality of threaded holes into which the plurality of primary plugs are screwed therein.

Claims 2-8, 13-15, 28 and 29 depend from independent Claim 1 and recite further patentable elements.

Page 3 of the rejection states that:

Dick et al teaches an adjustable nozzle for evaporation of organic monomers. Dick et al further teaches an evaporator 26 (vapor source). The organic monomer enters the evaporation chamber through an inlet 46. The nozzle plate 50 is bolted to the nozzle housing 28 using bolts 58. The motivation to modify the apparatus ... to utilize the evaporator ... [is] to provide a method of attaching the plugs to the holes. Dick et al shows that it is conventional to screw the plugs into the holes to control the manipulation of the hole openings and thus control the available surface area.

Applicants respectfully submit that Dick fails to teach or suggest the features of “primary plugs having an interior for supplying lubricant vapor, wherein each ... of primary plugs comprises a drilled hole and two openings for transporting the lubricant vapor; and ... a plurality of threaded holes into which the ... primary plugs are screwed,” as recited in Claim 1.

Applicants respectfully submit that Dick teaches “[t]he nozzle 48 has an elongate narrow slot opening 60 through which the vaporized coating material flows for deposition onto the substrate. The nozzle 48 includes an adjustment mechanism, described in detail below, for adjusting the width of the elongate slot opening 60” (col. 4 ln. 26-31). Dick continues, “the nozzle 48 is held to the nozzle housing 28 by a nozzle plate 50 shown in FIGS. 2-6. The nozzle plate 50 is bolted to the nozzle housing 28 using bolts 58” (col. 4 ln. 38-40, Fig. 2). Dick continues, “[t]o counteract the effects of thermal expansion on the elongate slot opening 60, the nozzle 48 of the present invention includes a plurality of adjustment bolts spaced along the longitudinal extent of the elongate slot opening 60” (col. 5, ln. 27-31, Fig. 2). Dick continues, “the adjustment bolts comprise alternating ‘push’ bolts 52 and ‘pull’ bolts 54 ... [a]s the push bolts 52 are tightened, a closing force is applied to the elongate slot opening 60 ... [t]he pull bolts 54 apply opening force to the elongate slot opening 60” (col. 5, ln. 32-41, Fig. 2). Therefore, the adjustment bolts in Dick do not comprise, “a drilled hole and two openings for transporting lubricant vapor,” as recited in Claim 1.

Applicants respectfully submit that Liehr, either alone or in combination with Dick, also fails to teach or suggest the features of “primary plugs having an interior for supplying lubricant vapor, wherein each ... of primary plugs comprises a drilled hole and two openings for transporting the lubricant vapor; and ... a plurality of threaded holes into which the ... primary plugs are screwed,” as recited in Claim 1.

First, the MPEP states, “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007),” (MPEP 2143.01).

Even if Liehr and Dick may be combined or modified, the claimed combination (“primary plugs having an interior for supplying lubricant vapor, wherein each ... of primary plugs comprises a drilled hole and two openings for transporting the lubricant vapor; and ... a plurality of threaded holes into which the ... primary plugs are screwed,” as recited in Claim 1) is not obvious, because the resultant claimed combination would not be predictable to one of ordinary skill in the art.

Dick teaches bolts that are solid and do not allow vapor passage therethrough. Dick also teaches that the bolts adjust the slot opening. However, Liehr's plugs allow vapor passage therethrough. Replacing Liehr's plugs with Dick's bolts would simply cause vapor to stop flowing and Dick's bolts would adjust a slot opening width of Liehr. Replacing the bolts of Dick with the plugs of Liehr, the proposed modification would cause vapor to shoot out through Dick's bolts in the wrong direction. These are the predictable results from the combination of Liehr and Dick. Therefore, the resultant claimed combination ("primary plugs having an interior for supplying lubricant vapor, wherein each ... of primary plugs comprises a drilled hole and two openings for transporting the lubricant vapor; and ... a plurality of threaded holes into which the ... primary plugs are screwed," as recited in Claim 1) would not be predictable, and thus, not obvious.

Secondly, the MPEP states, that if the "proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)," (MPEP 2143.01). The intended purpose of the Dick reference is to have high quality, uniform coating by directing flow through the slot and adjusting the slot's opening using the bolts. The intended purpose of the Liehr reference is coating carbon coatings (i.e., not lubricant) of uniform thickness and quality by directing flow through the plugs.

As explained above, replacing the plugs of Liehr with the bolts of Dick would effectively stop the flow because the bolts of Dick do not have holes therethrough, thus rendering the Liehr reference being modified unsatisfactory for its intended purpose. Also, replacing the bolts of Dick with the plugs of Liehr would divert the flow of vapor, instead of through the slot, and would render the Dick reference being modified unsatisfactory for its intended purpose. The flow would simply be in the wrong direction or diminished significantly through the slot. As the Background section of Dick states: "A change in slot tolerance directly affects the transverse or cross-direction coating uniformity. Lack of cross-direction coating uniformity results in coatings of poor quality." Therefore, there is no suggestion or motivation to make the proposed modification.

Thirdly, the MPEP states, "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)," (MPEP 2143.01). As explained above, the principle of operation of the Liehr reference would be significantly altered as the solid bolts replace the plugs of Liehr, i.e., stopping the flow. Therefore, the teachings of the references are not sufficient to render the claims *prima facie* obvious.

Finally, "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). The Examiner stated that Liehr as modified with Dick teaches bolts allowing for source material to flow therethrough. This mere conclusory statement is simply not a predictable outcome of the combination of Liehr and Dick.

For these reasons, Applicants respectfully submit that independent Claim 1 is not rendered obvious by Liehr in view of Dick, thereby overcoming the 35 USC §103(a) rejection of record. Since Claims 2-8, 13-15, 28 and 29 recite further elements to those claimed in independent Claim 1, Applicants respectfully submit that Claims 2-8, 13-15, 28 and 29 are also not rendered obvious by Liehr in view of Dick. Therefore, Applicants respectfully submit that Claims 1-8, 13-15, 28 and 29 are allowable.

Conclusion

In view of the above, it is submitted that the Claims are in condition for allowance and reconsideration of the rejections is respectfully requested. Allowance of Claims 1-8, 13-15, 28 and 29 at an early date is solicited.

The Examiner is invited to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including any extension of time fees, to Deposit Account No. 50-4160 and please credit any excess fees to such deposit account.

Respectfully submitted,

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